FitchLearning

Financial Reporting and Analysis

Simon Holohan, Head of CFA® Program Exam Training

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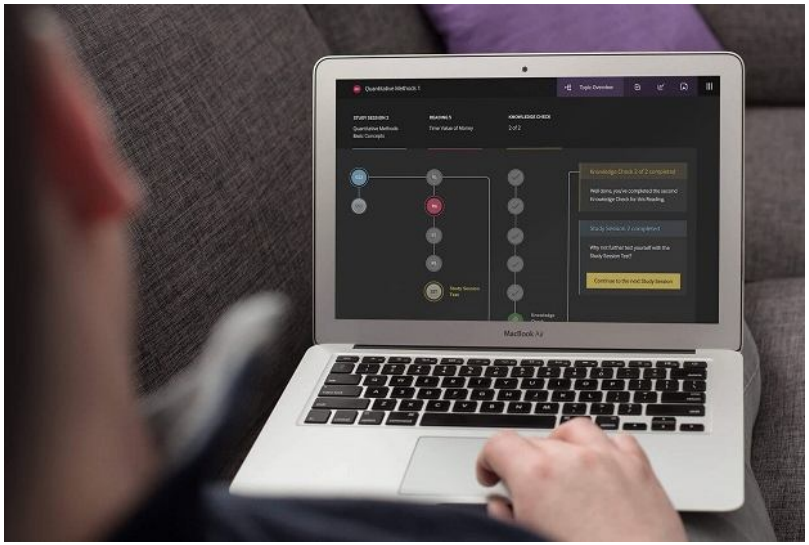

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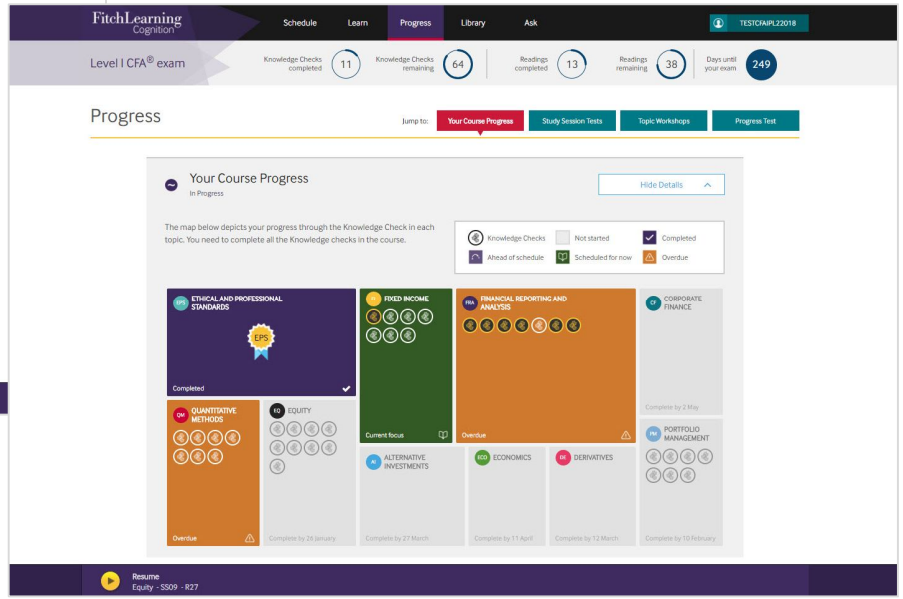

Getting ready for the Level I CFA Program exam

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- **5-Day Intensive Program**, starting 8th or 29th October
- **2-Day Classroom Review courses**, (weekday or weekend) available in November
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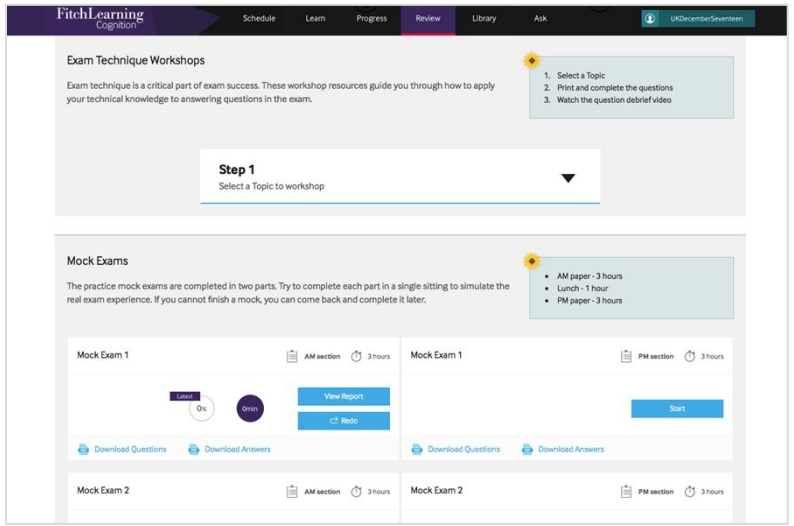
  - **Prepare** for the exam
  - **Strengthen** your knowledge
  - Perfect your exam **technique**
- **Stand alone mock exams** (online and printable)



For more information, contact Steve Brady on 0207 496 8295 or email steve.brady@fitchlearning.com. Alternatively, visit www.fitchexamprep.com/review-options.

Coverage

STUDY SESSION 6: FINANCIAL REPORTING AND ANALYSIS: AN INTRODUCTION

Reading Assignments

Reading 21: Financial Statement Analysis: An Introduction

Reading 22: Financial Reporting Mechanics

Reading 23: Financial Reporting Standards

STUDY SESSION 7: FINANCIAL REPORTING AND ANALYSIS: INCOME STATEMENTS, BALANCE SHEETS AND CASH FLOW STATEMENTS

Reading Assignments

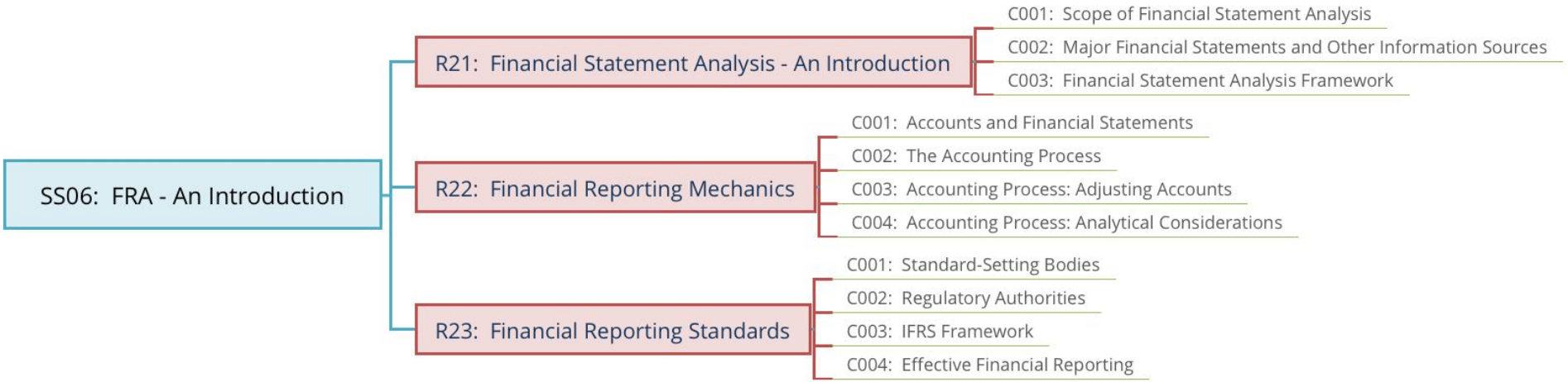
Reading 24: Understanding Income Statements

Reading 25: Understanding Balance Sheets

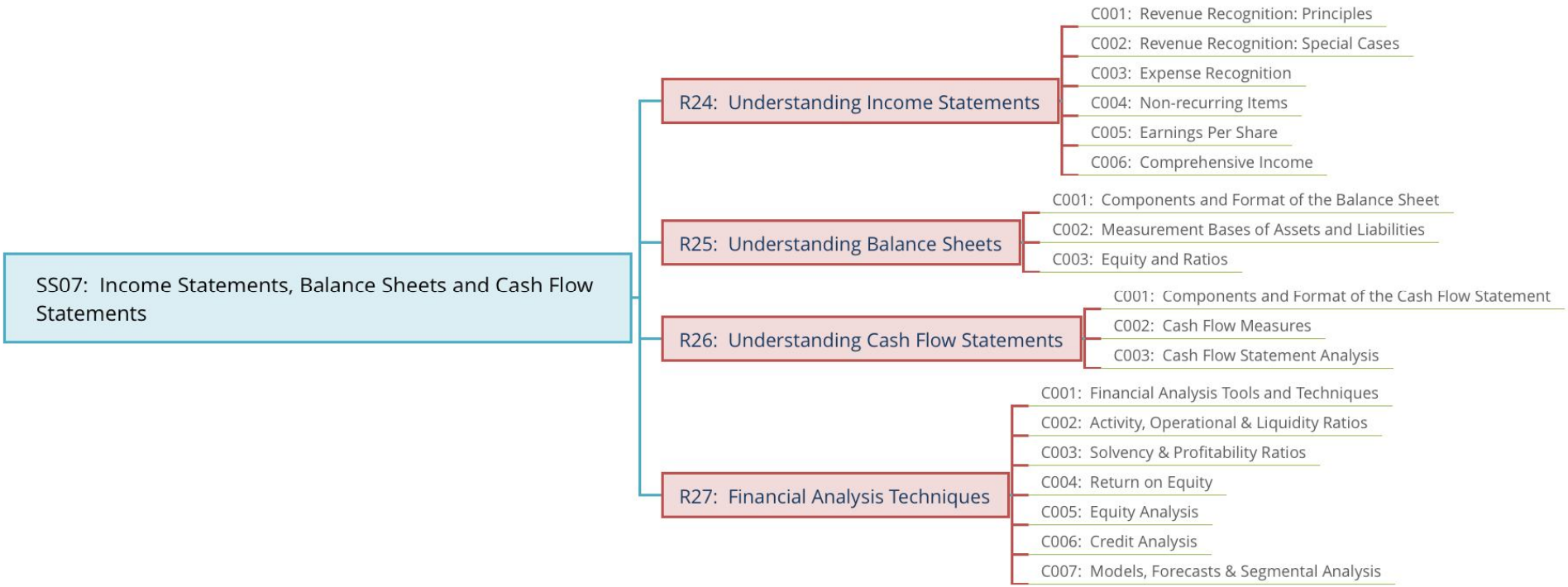
Reading 26: Understanding Cash Flow Statements

Reading 27: Financial Analysis Techniques

SS6: FRA: An Introduction



SS7: FRA: Income Statements, Balance Sheets and Cash Flow Statement



Reading 21: Financial Statement Analysis: An Introduction

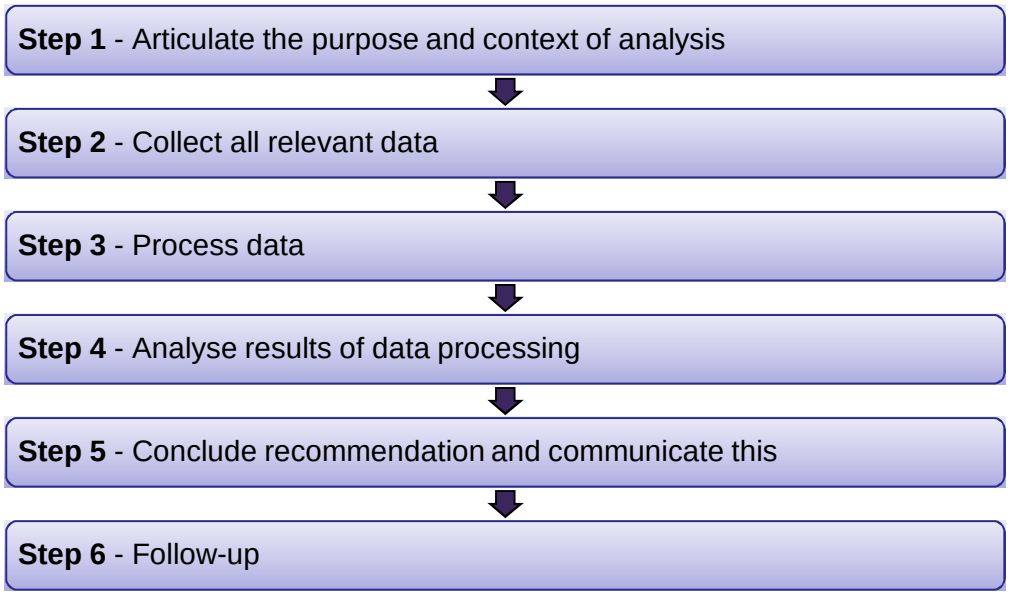
Summary of key financial statements

- Income statement
- Balance sheet
- Statement of cash flows
- Statement of changes in owners' equity (including statement of comprehensive income)

Summary of additional information

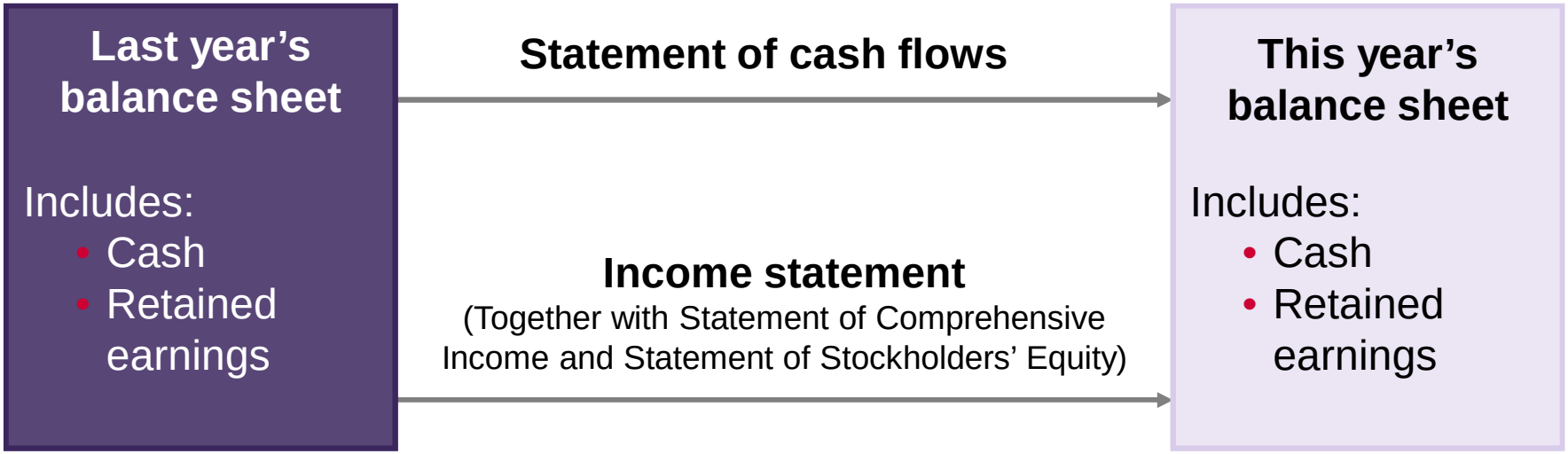
- Footnotes and supplementary schedules
- Management's discussion and analysis (MD&A)
- External auditor's report(s)

Steps in the Financial Statement Analysis Process



Reading 22: Financial Reporting Mechanics

Assets	The economic resources of a company
Liabilities	The creditors' claims on resources of a company
Owners' equity	The residual claim on those resources
Revenue	Inflows of economic resources to the company
Expenses	Outflows of economic resources from the company or increases in liabilities
Accounts	Provides individual records of increases and decreases in specific asset, liability, component of owners' equity, revenue or expense



Reading 23: Financial Reporting Standards

Required Financial Statements	Fundamental Principles	Presentation Requirements
Balance sheet Income statement Statement of changes in equity Statement of cash flows Accounting policies and notes	Fair presentation Going concern Accrual basis Consistency Materiality	Aggregation where appropriate No offsetting Classified balance sheet Minimum information on face Minimum note disclosures Comparative information

Standard setters

- International Accounting Standards Board (IASB) - IFRS
- Financial Accounting Standards Board (FASB – US GAAP

Regulatory authorities

- US: Securities Exchange Commission (SEC)
- UK: Financial Conduct Authority (FCA) and Prudential Regulation Authority (PRA)

Reading 24: Understanding Income Statements

Revenue Recognition

	Percentage-of-completion	Completed contract
Profit recognised	Over the life of the contract	At the end of the contract
Earnings	Higher	Lower
Assets	Higher	Lower
Equity	Higher	Lower
Approach	More aggressive because profit is recognised earlier	Less aggressive

Earning per share (EPS)

	Calculation
Basic EPS	$\frac{\text{Net income - preference dividends}}{\text{Weighted average number of shares}}$
Diluted EPS – convertible preference shares	$\frac{\text{Net income}}{\text{Weighted average number of shares} + \text{New shares issued}}$
Diluted EPS – convertible bonds	$\frac{\text{Net income - preference dividends} + \text{post-tax interest saved}}{\text{Weighted average number of shares} + \text{New shares issued}}$
Diluted EPS – warrants/ employee options	$\frac{\text{Net income - preference dividends}}{\text{Weighted average number of shares} + \text{New dilutive shares issued}}$ $\text{Dilutive shares} = \frac{\text{Av. share price - exercise price}}{\text{Average share price}} \times \text{no. of shares issued}$

Reading 25: Understanding Balance Sheets

Financial Assets

	Trading securities	Available-for-sale	Held-to-maturity
Balance sheet valuation	Fair value	Fair value	Amortized cost
Movements in fair value – unrealised gains/losses	Income statement	Direct to equity – other comprehensive income	N/A
Realised gains/losses	Income statement	Income statement	Income statement

$ 000s

PPE_0	230
PPE_1	180
GAIN ON DISPOSAL	15
DEP. FOR YR	100
BV of Asset disposed	30

$230 - 100 - 30 + \text{New Asset} = 180$

New Asset = 80

Proceeds	? ---- 45
− BV of Asset	30
GAIN	15

$CF1 = +45 - 80$

Reading 26: Understanding Cash Flow Statements

Organization of statement of cash flows

Cash flows from operations (CFO)

+/- Cash flow from investing (CFI)

+/- Cash flow from financing (CFF)

= Change in cash account

\+ Beginning period cash

= Ending cash balance

Indirect method

- Calculation of cash flows from operations (CFO)

Net income

\+ Non-cash expenses
\- Non-cash revenues

\+ Decreases in accounts receivables/inventories
\- Increase in accounts receivables/inventories

\+ Increase in accounts payable/tax payable/interest payable
\- Decrease in accounts payable/tax payable/interest payable

\- Gain on disposal of an asset
\+ Loss on disposal of an asset

= Cash flows from operations (CFO)

	US GAAP	IAS GAAP
Interest received	CFO	CFO or CFI
Interest paid	CFO	CFO or CFF
Dividends received	CFO	CFO or CFI
Dividends paid	CFF	CFO or CFF
Bank overdrafts	CFF	Considered part of cash and cash equivalents
Taxes paid	CFO	CFO but some can be allocated to CFI/CFF if appropriate
Format	Direct or indirect, reconciliation if direct is used	Direct or indirect

Ratios : LIFO v FIFO

: SL v Accelerated

: Op. lease v Financial lease

: Capitalize v Expense

Activity ratios 365 / Inv.T.

B/S + I/S OR

- Days of inventory on hand (DOH) $= \frac{\text{Average inventory}}{\text{Cost of goods sold}} \times 365$ B/S + CF

- Days of sales outstanding (DSO) $= \frac{\text{Average receivables}}{\text{Revenue}} \times 365$

- Payables days $= \frac{\text{Average payables}}{\text{Purchases}} \times 365$

* Cash conversion cycle = DOH + DSO – Payable days

7 + 2 60

- Total asset turnover $= \frac{\text{Revenue}}{\text{Average total assets}}$

Current ratio > 1

New transaction: Collect $1m from receivables, & pay supplier. Current ratio will: A ↑ B ↓ C —

Rec'ble ↓ Cash ↑↓ Payables ↓

$$\frac{CA \downarrow}{CL \downarrow} \qquad \frac{10}{5} = 2 \qquad \frac{9}{4} = 2.25$$

Reading 27: Financial Analysis Techniques

Liquidity ratios SHORT TERM DEBT

- $\text{Current ratio} = \dfrac{\text{Current assets}}{\text{Current liabilities}}$

- $\text{Quick (acid test) ratio} = \dfrac{\text{Current assets - Inventory}}{\text{Current liabilities}}$

Solvency ratios LONG-TERM DEBT

- $\text{Debt - to - equity ratio} = \dfrac{\text{Debt}}{\text{Equity}}$ $\qquad \dfrac{D}{D+E}$

- $\text{Financial leverage ratio} = \dfrac{\text{Average total assets}}{\text{Average total equity}}$

- $\text{Interest cover} = \dfrac{\text{Earnings before interest and tax(EBIT)}}{\text{Interest payments}}$

S	200
COGS	(100)
EBIT	100
Int 20%	(20)
EBT	80
Tax 25%	(20)
NI	60

$$\frac{NI}{EBT} \times \frac{EBT}{EBIT} \times \frac{EBIT}{S} = \frac{NI}{S} = \frac{60}{200}$$

$$\boxed{\frac{60}{80}} \times \boxed{\frac{80}{100}} \times \frac{100}{200}$$

$0.75 \times 0.8 \times$ Op. Profit Margin

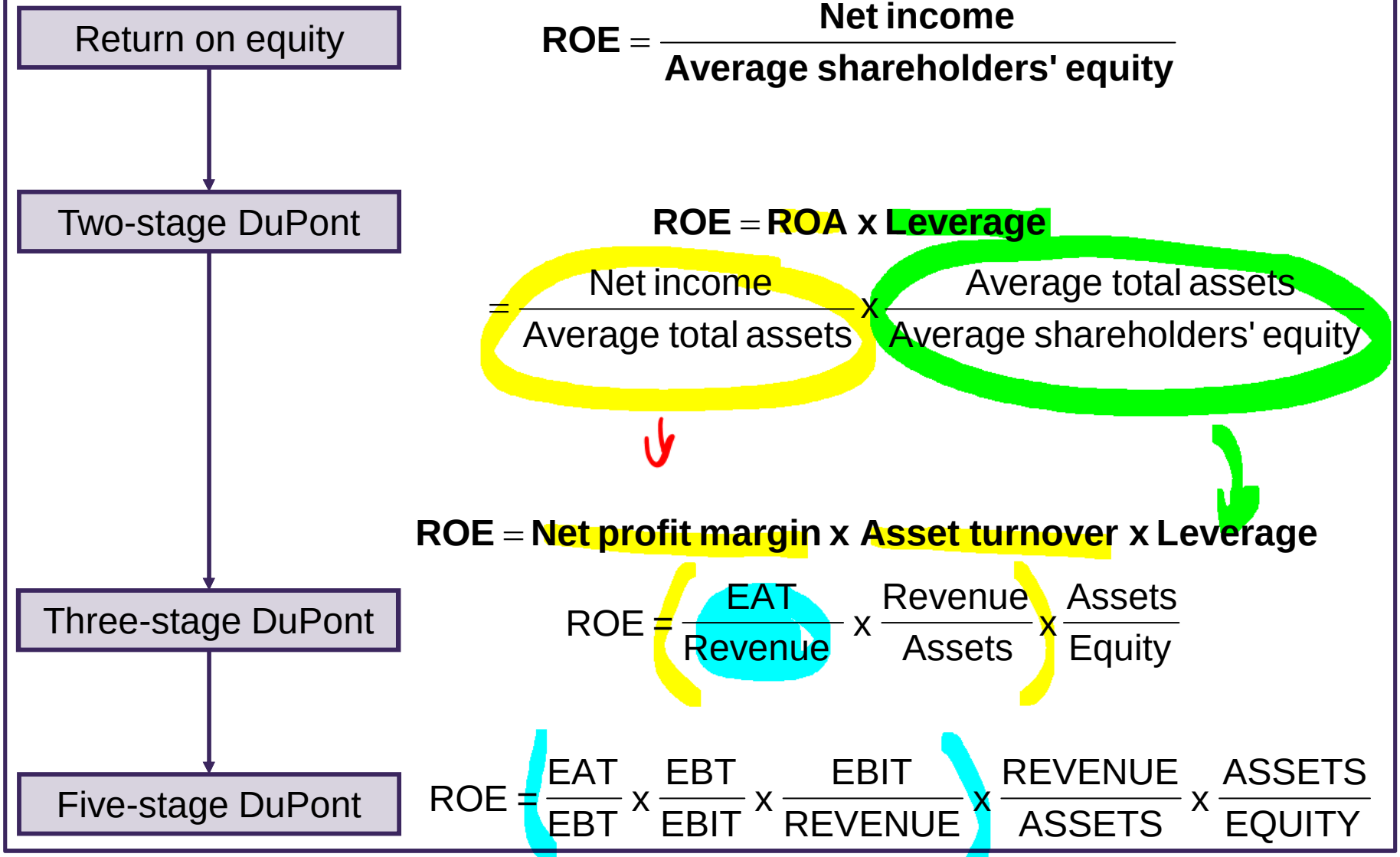
$\downarrow$ $\downarrow$

$1-T$ $1-r$

0.5

Reading 27: Financial Analysis Techniques

Performance ratios



Coverage

STUDY SESSION 8 – FINANCIAL REPORTING AND ANALYSIS: INVENTORIES, LONG-LIVED ASSETS, INCOME TAXES, AND NON-CURRENT LIABILITIES

Reading Assignments

Reading 28: Inventories

Reading 29: Long-Lived Assets

Reading 30: Income Taxes

Reading 31: Non-Current (Long-Term) Liabilities

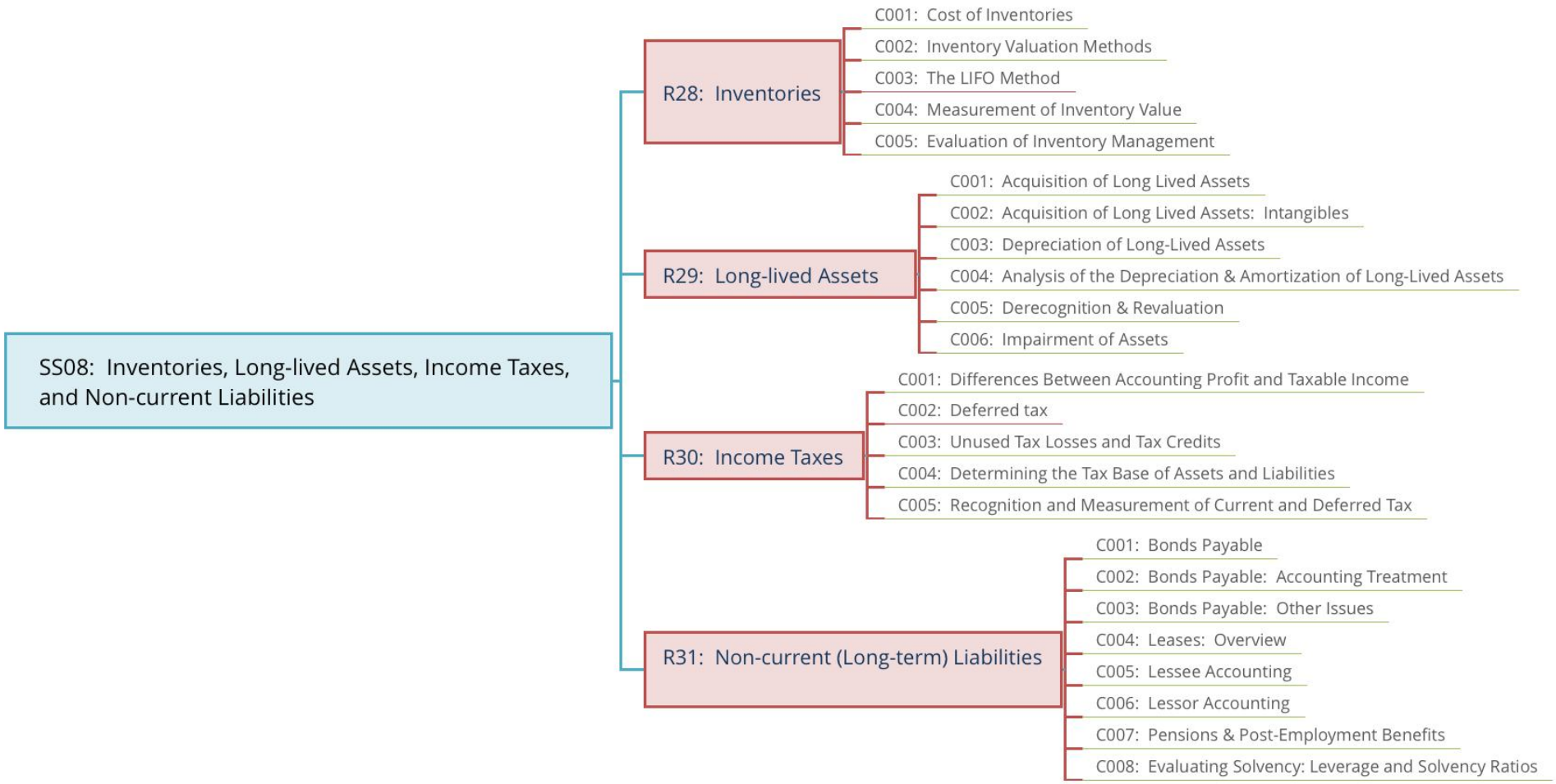
STUDY SESSION 9 – FINANCIAL REPORTING AND ANALYSIS: FINANCIAL REPORTING QULAITY AND FINANCIAL STATEMENT ANALYSIS

Reading Assignments

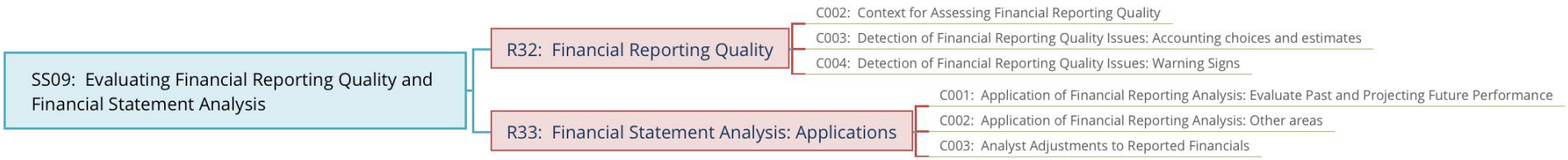
Reading 32: Financial Reporting Quality

Reading 33: Financial Statement Analysis: Applications

SS8: FRA: Inventories, Long-lived Assets, Income Taxes, and Non-current Liabilities



SS9: Evaluating Financial Quality And Financial Statement Analysis



Assume: P ↑ AND stable/rising inventory levels

LIFO

Lower Inventory

Opening Inv
+ Purchases
− Closing.

Lower Income

↳ Higher COGS

↳ Lower Tax

↳ Higher CFO

Reading 28: Inventories

Accounting for inventories and the cost of goods sold

Beginning inventory (BI)
+ Purchases (P)
= Cost of goods available to sell
- Ending inventory (EI)
= Cost of goods sold (COGS)

Inventory methods: In periods of rising prices and stable or increasing inventory levels

	FIFO	LIFO
Inventory	Higher	Lower
Shareholder equity	Higher	Lower
Earnings	Higher	Lower
Pre-tax cash flow	Same	Same
After-tax cash flow	Lower	Higher
Profit margins	Higher	Lower
Asset turnover	Lower	Higher
Current ratio	Higher	Lower
Debt to equity	Lower	Higher

LIFO Reserve

Balance Sheet

FIFO Inventory = LIFO Inventory + LIFO Reserve

FIFO Retained Earnings = LIFO Retained Earnings + LIFO Reserve x (1 – t)

Income Statement

FIFO COGS = LIFO COGS − Δ LIFO Reserve

FIFO Net Income = LIFO Net Income + Δ LIFO Reserve x (1 – t)

Instructor Tip:
"When adjusting a balance sheet number use the LIFO reserve as at that point in time, for an income statement number use the CHANGE (Δ) in the LIFO reserve"

2nd 4 (DEPR) SL 2nd ENTER ×2

DB = 200 ↓

LIF 3 E ↓

MOI 1 E ↓

CST 40,000 E ↓

SAL 10,000 E ↓

YR 1 E ↓ YR 2 E ↓ YR 3 E ↓

Dep = 26,667 ↑ Dep = 3,333 ↑ Dep 0

MACHINE COST $40,000 SCRAP $10,000

UEL = 3y

$$SL = \frac{\text{Net Cost}}{UEL} = \frac{40,000 - 10,000}{3} = 10,000$$

	①	②	③
BV	30,000	20,000	10,000
Dep exp.	10,000	10,000	10,000
Dep exp	26,667	3,333	0
BV	13,333	10,000	10,000

$$ROA = \frac{NI \downarrow}{TA \downarrow}$$

SL → DDB

10,000	26,667
exp.	exp

BV 30,000 ✓ 13,333

$$\frac{20}{100} \rightarrow \frac{4}{84}$$

Reading 29: Long-Lived Assets

Capitalising

Where cash outflows are considered to provide benefits in the future, typically beyond one year, the spending can be capitalised

- Decrease cash
- Increase assets (PPE or intangibles)

Further adjustments

- Depreciation/amortization

Expensing

Where the outflow is not expected to provide a benefit for future periods the amount is deducted from Net Income in the period and therefore expensed

- Decrease cash
- Decrease equity

Where spending is expensed in the period incurred, no further charges to income are required

Depreciation methods

- Straight line
  - Cost of asset allocated to expense evenly over its useful life

$$\text{Depreciation expense} = \frac{\text{Cost} - \text{Estimated residual (salvage) value}}{\text{Useful life (UEL)}}$$

- Accelerated methods
  - Allocation of cost is greater in earlier years
  - Double declining balance:

Depreciation expense = Constant % x Undepreciated cost

Constant % = 2 / Useful life

Undepreciated cost = Cost – Accumulated depreciation

Instructor Tip:
"The calculator has the [DEPR] *function that can calculated depreciation for you! Take a look at the calculator recording on Cognition"*

Effect of depreciation choices on key financial ratios

- Straight line vs. accelerated methods (early years of asset life)

Variable	Straight line	Accelerated
Assets	Higher	Lower
Earnings	Higher	Lower
Shareholders' equity	Higher	Lower
Cash flow	Same	Same
Profit margin (profit/revenue)	Higher	Lower
Current ratio (CA/CL)	Same	Same
Asset turnover (revenue/assets)	Lower	Higher
Debt-to-equity (debt/equity)	Lower	Higher
Return-on-assets (NI/assets)	Higher	Lower
Return-to-equity (NI/Equity)	Higher	Lower

Reading 29: Long-Lived Assets

	US GAAP	IFRS
Reversal of impairment of inventory	Not allowed	Permitted
Reversal of impairment of long-lived assets held for use	Not allowed	Permitted
Reversal of impairment of long-lived assets held for sale	Permitted	Permitted
Reversal of impairment of intangible assets other than goodwill	Not allowed	Permitted
Reversal of impairment of goodwill	Not allowed	Not allowed
Revaluation of long-lived assets	Not allowed	Permitted
Revaluation of goodwill	Not allowed	Not allowed

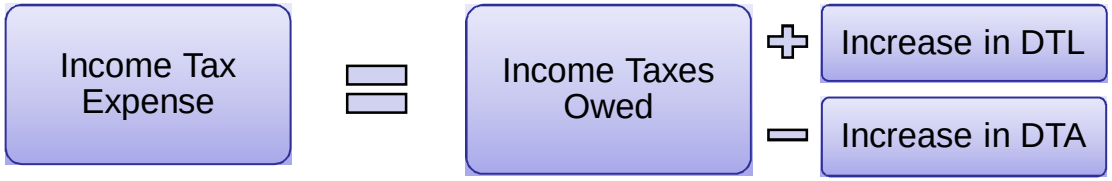
Reading 30: Income Taxes

Differences between accounting profit and taxable income

- Permanent differences
  - Income or expenses are included in either pre-tax income or taxable income but not both

- Temporary differences
  - Income or expenses are included in both pre-tax income and taxable income but in different periods:
    - Warranty expense
    - Accounting depreciation methods vs. tax depreciation methods
    - Tax losses

Income tax expense in income statement



Deferred tax liabilities (DTL)

- Pre-tax income > taxable income

- Difference due to a temporary timing difference
- E.g. accelerated tax depreciation vs. accounting depreciation

Deferred tax assets (DTA)

- Pre-tax income < taxable income

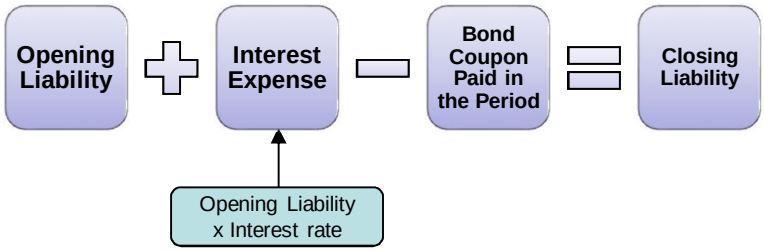
- E.g. accounting expenses not being recognized for tax purposes such as warranty expense
- Tax losses

Balance sheet item	Carrying amount vs. tax base	DTL/DTL
Asset	Carrying amount > tax base	DTL
Asset	Carrying amount < tax base	DTA
Liability	Carrying amount > tax base	DTA
Liability	Carrying amount < tax base	DTL

Reading 31: Non-Current (Long-Term) Liabilities

Accounting for bonds

- Date of issue
  - Recognize present value of liability on balance sheet
- Interest expense
  - Opening liability x Yield at date of issue
- Liability in balance sheet



- Cash flow statement
  - Coupons
    - CFO (IFRS CFO/CFF)
  - Proceeds/repayment of principal
    - CFF

Summary

- Bonds issued at par
  - Market rate = Coupon rate
  - Interest expense = Coupon payment
- Bonds issued at a discount to par value
  - Market rate > Coupon rate
  - Interest expense > Coupon payment

- Zero-coupon bonds
  - Market rate > Coupon rate
  - Interest expense > Coupon payment
  - Interest expense = Amortization of discount
- Bonds issued at a premium to par value
  - Market rate < Coupon rate
  - Interest expense < Coupon payment

Reading 31: Non-Current (Long-Term) Liabilities

Finance (or capital) lease vs. operating lease

- Finance leases are recognized on balance sheet
- Operating leases are treated like a rental
  - No asset or liability recognized on balance sheet
  - Rental expense recognized in income statement

Leases

IFRS criteria for recognizing a finance lease

- Lease transfers ownership of asset to lessee by end of lease term, **or**
- Lessee has option to purchase asset at less than fair value, **or**
- Lease term is for major part of economic life of asset

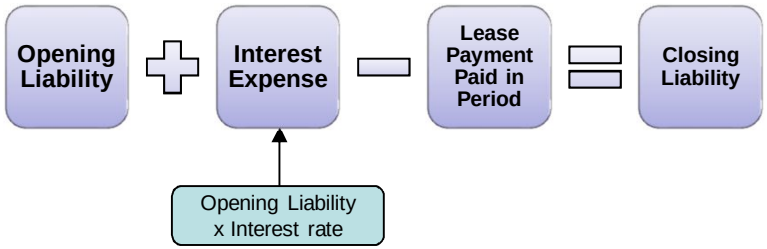
US GAAP criteria for recognizing a finance lease

- Title transferred during the life of the lease, **or**
- Bargain purchase option (asset can be purchased at less than fair value), **or**
- Lease period **at least 75% of asset's life***, **or**
- PV of lease payments **at least 90% of FV of asset***
  - *N/A to leases commencing in final 25% of asset life

Effects of using operating vs. capitalized methods (early years)	Operating lease	Capital lease
Profit margin (early years)	Higher	Lower
Profit margin (later years)	Lower	Higher
Asset turnover (revenue / assets)	Higher	Lower
Current ratio (CA/CL)	Higher	Lower
Debt / equity (debt / equity)	Lower	Higher
Return-on-assets (EAT / total assets)	Higher	Lower
Return-on-equity (EAT / equity)	Higher	Lower
Interest coverage (EBIT / I)	Higher	Lower

Accounting for a finance lease

- Amortized cost method
  - Recognize asset and liability on balance sheet
    - Present value of minimum lease payments
  - Income statement expense
    - Depreciation of asset
    - Interest expense
      - Opening liability x Effective interest rate
  - Balance sheet



  - Cash flow statement
    - Interest portion of lease payment = CFO (US) or CFO/CFF (IFRS)
    - Principal payment = CFF

Instructor Tip:
"You can use the [AMORT] *function of the calculator to solve for the interest expense, outstanding balance and principal repayment of the finance lease. View the calculator tutorial on Cognition."*

Leases – Example

Example 31.3: Accounting for leases by a lessee

The details of a lease are as follows:

- Equipment is leased for four years
- Lease payments: $1,000 due at the end of the year
- Rate implicit in the lease: 10%
- Economic life of the asset: five years
- Current fair market value of the asset: $3,500

Show the effect of the above lease on the financial statements:

- If it is accounted for as a finance lease
- If it is accounted for as an operating lease

Leases – Example

Solution 31.3: Accounting for leases by a lessee

Period	Opening balance	Interest expense (income statement) @10%	Cash payment	Closing balance (balance sheet)
1	3,170	317	(1,000)	2,487
2	2,487			
3				
4				

Leases – Example

Operating lease

- Balance sheet
  - No asset or debt-recognized balance sheet
- Income statement
  - Operating lease rental $1,000 p.a.

	Year 1	Year 2	Year 3	Year 4		Total
Finance lease						
Depreciation	793	793	792	792		3,170
Interest expense	317	249	174	90		830
Total	1,110	1,042	966	882		4,000
Operating lease	1,000	1,000	1,000	1,000		4,000

Reading 32: Financial Reporting Quality

Quality Spectrum of Financial Reports

- GAAP, decision-useful, sustainable, and adequate returns
- GAAP, decision-useful, but sustainable?
  - –Low “earnings quality”
- Within GAAP, but biased choices
- Within GAAP, but “Earnings Management”
  - –Real earnings management
  - –Accounting earnings management

FINANCIAL REPORTING QUALITY Vs. EARNINGS QUALITY

- Departures from GAAP
- Fictitious transactions

Adjustments related to property, plant and equipment

- Relationships:
  - Accumulated depreciation / Gross PPE = How much of life has passed
  - Accumulated depreciation / Depreciation expense = Average age of asset base
  - Net PPE / Depreciation expense = How many years of UEL remain
  - Gross PPE / Depreciation expense = Average life of assets at start
  - Capex / PPE + Capex = % of asset base being renewed
  - Capex vs. disposals = growth of asset base

Other Adjustments

- Restate LIFO balances to FIFO
- Remove goodwill when calculating ratios such as price-to-book value
- Capitalise operating leases
  - Increase assets and liabilities
  - Recalculate debt/equity ratio

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Contact

Europe

Steve Brady

T: +44 (0) 207 496 8295
E: steve.brady@fitchlearning.com